

We Claim:

1. A network switching device comprising multiple ports wherein a port has access to a local lookup table, and wherein the lookup table is populated with table entries based on use.

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2. The network switching device of claim 1 further including a search engine coupled to the lookup table.

3. The network switching device of claim 1 wherein the lookup table stores source and destination addresses and wherein the destination addresses are tracked to determine how recently they have been used and are deleted if not used within a predetermined period of time.

4. The network switching device of claim 1 wherein a lookup table associated with a first port stores different destination addresses than a lookup table associated with a second port.

5. The network switching device of claim 1 wherein the lookup table includes a network address field comprising addresses of nodes on a network, and a forwarding information field comprising forwarding information associated with the network address.

6. A method for forwarding network frames on a network forwarding device, comprising the steps of:

receiving a network address including source and destination addresses on a first port;

searching a lookup table within the first port for the destination address;

if the destination address is not found in the lookup table, learning the destination address by inserting an entry in the lookup table for the destination address; and

1 wherein other ports on the network forwarding device do not learn the destination address
because of receipt on the first port.

5 7. A network switching device comprising:
a central management module storing a central lookup table including one or more
entries;

a first switching interface coupled to the central management module, the first switching
interface storing a first portion of the entries in a first local table; and

10 a second switching interface coupled to the central management module, the second
switching interface storing a second portion of the entries in a second local table, characterized
in that the central management module receives from the first switching interface a request for
information associated with one of the entries in the central lookup table and the central
management module transmits the information to only the first switching interface for storing
15 only in the first local table as a part of a new entry.

8. The network switching device of claim 7, wherein the first and second switching
interfaces are first and second ports on the network switching device.

20 9. The network switching device of claim 7 further characterized in that the central
management module foregoes transmittal of the information to the second switching interface.

10. The network switching device of claim 7, wherein the first and second local tables
store active entries used by the first and second switching interfaces during a predetermined time
25 period.

11. The network switching device of claim 7, wherein an entry in the first or second
local table is removed if not used within a predetermined time period.

30 12. The network switching device of claim 11, wherein the entry is removed from all
local tables.

13. The network switching device of claim 11, wherein the entry is removed from
a single local table.

14. A method for forwarding data packets via a network switching device having a plurality of switching interfaces, each switching interface storing a local lookup table, the method comprising:

receiving at a switching interface a data packet including a destination address;

searching a local lookup table associated with the switching interface for the destination address;

transmitting by the switching interface a request for information associated with the destination address if the search is unsuccessful;

transmitting the information to the requesting switching interface for storing in the associated local lookup table; and

foregoing transmittal of the information to non-requesting switching interfaces.

15. The method of claim 14, wherein the switching interface is a port on the network switching device.

16. The method of claim 14, wherein the local lookup table stores active entries used by the switching interface during a predetermined time period.

17. The method of claim 14 further comprising removing an entry in the local lookup table if the entry is not used within a predetermined time period.

18. The method of claim 17, wherein the entry is removed from all local lookup tables.